



# ***Stormwater: How Can C/CAG Help Address the Funding Need?***

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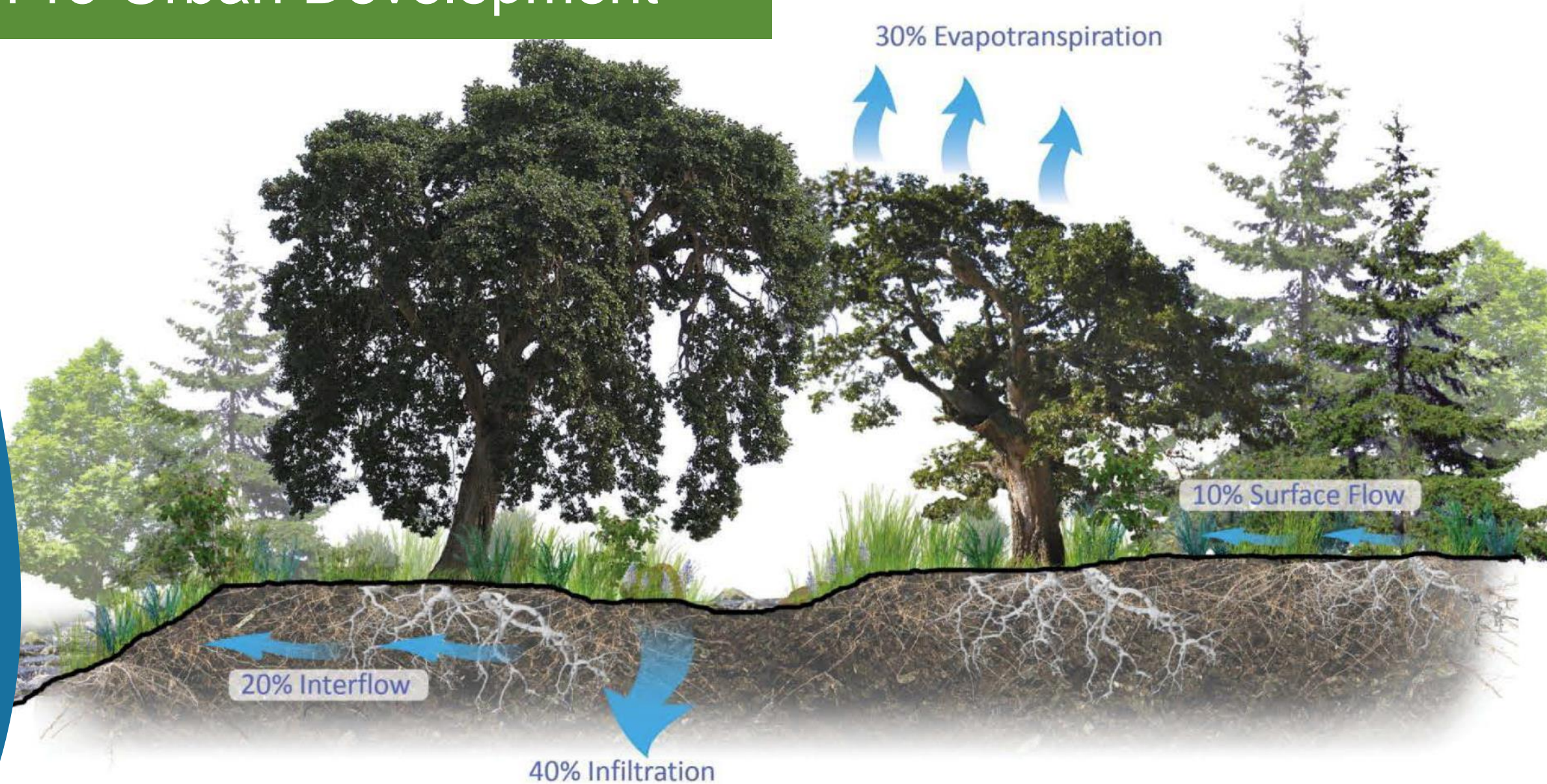
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Stormwater Program Specialist



**C/CAG Annual Forum**  
**April 8, 2021**

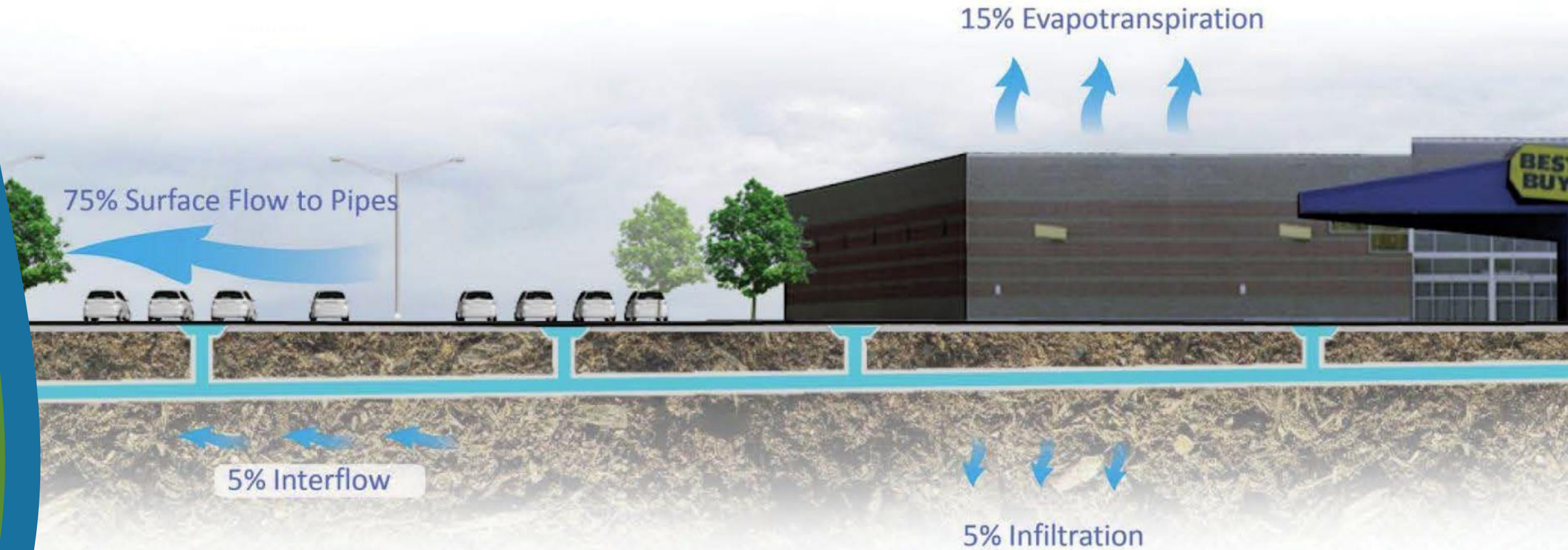


# Pre-Urban Development





# Urban Development









There are **major deficiencies** in the existing City storm drain systems. Common drainage system concerns are **undersized storm drain lines**, bubble-up storm drain systems, and areas without storm drain systems. In addition, there is concern with **inadequate flow capacity** of Belmont Creek. (Belmont)

Replacement of the **inadequately sized pipeline** from San Benito Road through the rights-of-way between properties down to Mariposa Street and along Mariposa Street to San Bruno Avenue to reduce the **risk of** due to **potential erosion** and saturation. (Brisbane)

**Undersized** storm drain systems - Runoff in **excess of the flow capacity** of an undersized storm drain systems will flow through the street and **could enter private properties** as concentrated flow. (Hillsborough)

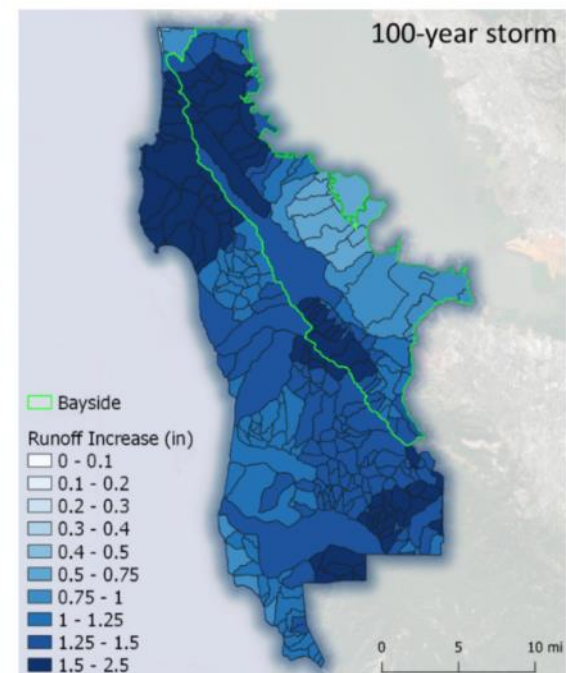
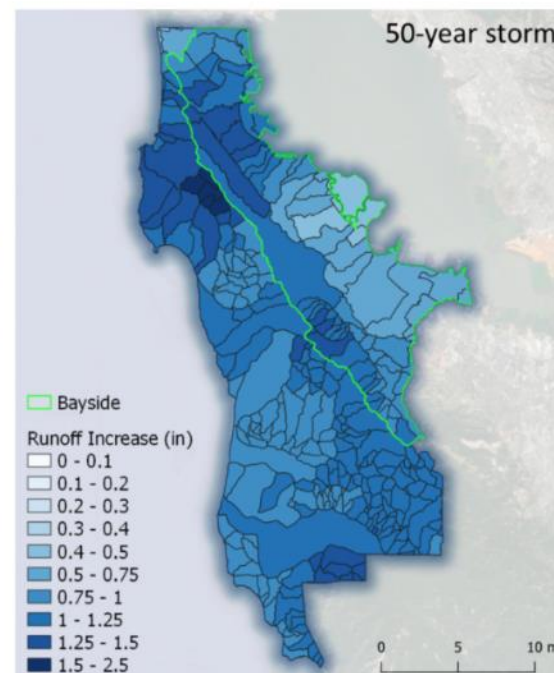
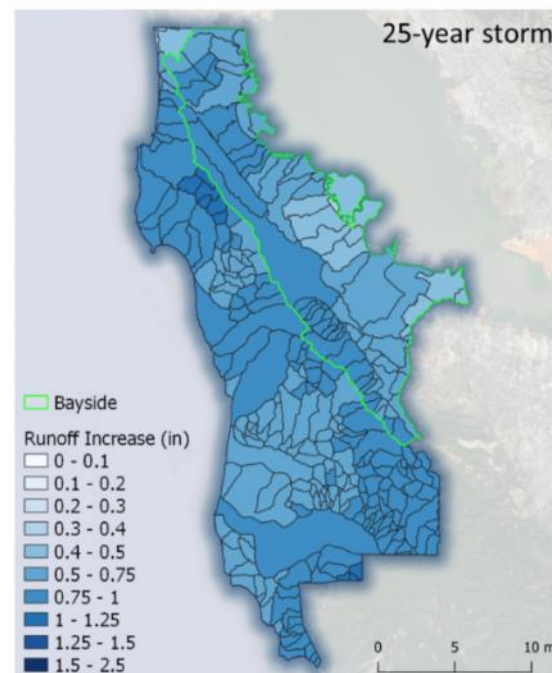
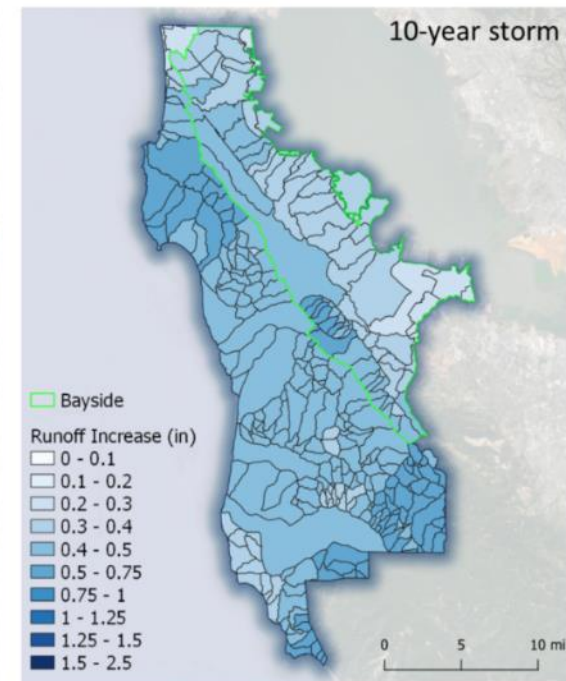
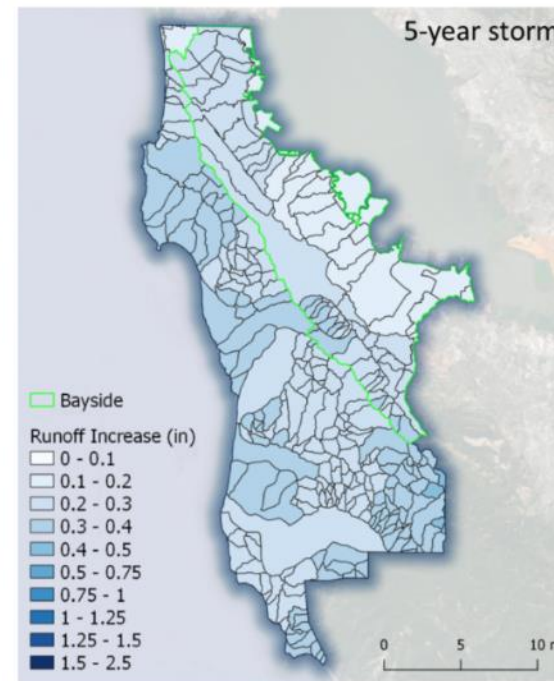
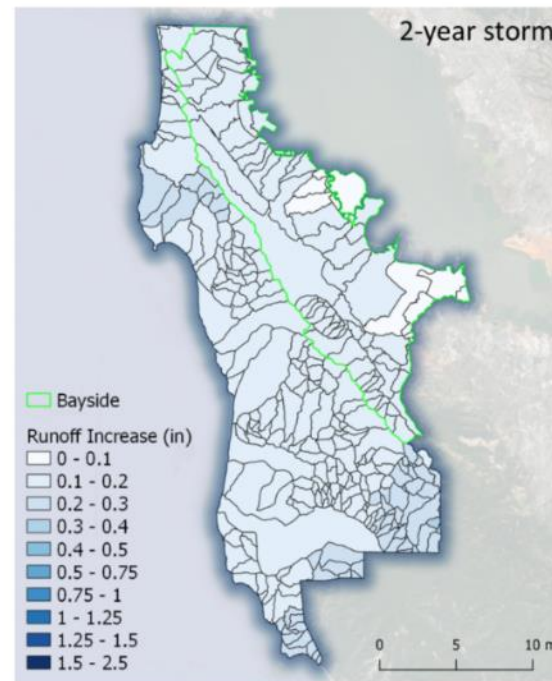
At the Marsh Road box culvert, the **existing capacity** of the Atherton Channel is limited to **less than estimated 10-year storm** event flows. Providing 100-year **flood protection** for the Atherton Channel is **not currently feasible** due to the existing downstream Atherton Channel constraints beyond the Town limits. (Atherton)

The **flooding** occurring on Spindrift Way should be considered a **high priority deficiency** due to the depth and duration of flooding. The pipes that serve this area may **require upsizing**. Flooding occurring on Hwy 92 near the intersection of Main Street should also be considered a high priority deficiency due to the depth and **duration of flooding**. The pipes that serve this area may require upsizing. (Half Moon Bay)

The City of Menlo Park has **drainage issues** in various regions of the City as well as **problems that affect individual properties**. The **regional problems** generally affect many property owners and usually occur only when there is a significant storm event. These problems occur as a **result of deficiencies** in the existing storm drain collection system.



# *Future Climate Impacts*



# *Poll #1*

- How much do you think average costs are for cities to fix existing storm drain infrastructure problems?
  - A. \$0-5 Million
  - B. \$5-10 Million
  - C. \$10-20 Million
  - D. \$20-50 Million
  - E. \$50-100 Million



# *Poll #1*

- How much do you think average costs are for cities to fix existing storm drain infrastructure problems?
  - A. \$0-5 Million
  - B. \$5-10 Million
  - C. \$10-20 Million
  - D. \$20-50 Million
  - E. \$50-100 Million

# Infrastructure Costs

|                     | Storm Drain<br>Master Plan Cost (total) | High Priority<br>Projects | Med Priority<br>Projects | Low Priority<br>Projects |
|---------------------|---|---------------------------|--------------------------|--------------------------|
| Atherton            | \$45                                    | \$18                      | \$24                     | \$3                      |
| Belmont             | \$57                                    | \$13                      | \$13                     | \$31                     |
| Brisbane            | \$20                                    | \$15                      | \$3                      | \$2                      |
| East Palo Alto      | \$39                                    | \$31                      | \$5                      | \$3                      |
| Hillsborough        | \$58                                    | \$26                      | \$14                     | \$18                     |
| Menlo Park          | \$39                                    | \$23                      | \$16                     |                          |
| Millbrae            | \$42                                    | \$3                       | \$30                     | \$9                      |
| Pacifica            | \$11                                    | \$9                       | \$2                      |                          |
| San Bruno           | \$26                                    | \$19                      |                          | \$7                      |
| San Carlos          | \$56                                    | \$43                      | \$13                     |                          |
| San Mateo           | \$57                                    | \$33                      | \$16                     | \$8                      |
| South San Francisco | \$54                                    | \$23                      | \$27                     | \$4                      |
| <b>Total</b>        | <b>\$504</b>                            | <b>\$256</b>              | <b>\$163</b>             | <b>\$85</b>              |

Note: All costs in \$ millions, for jurisdictions with storm drain master plans available to C/CAG  
*Data are preliminary, not to be cited*



# Infrastructure Costs

|                     | Storm Drain<br>Master Plan Cost (total) | High Priority<br>Projects | Med Priority<br>Projects | Low Priority<br>Projects | Dedicated Annual<br>Revenue |
|---------------------|---|---------------------------|--------------------------|--------------------------|-----------------------------|
| Atherton            | \$45                                    | \$18                      | \$24                     | \$3                      | \$0.000                     |
| Belmont             | \$57                                    | \$13                      | \$13                     | \$31                     | \$0.300                     |
| Brisbane            | \$20                                    | \$15                      | \$3                      | \$2                      | \$0.055                     |
| East Palo Alto      | \$39                                    | \$31                      | \$5                      | \$3                      | \$0.125                     |
| Hillsborough        | \$58                                    | \$26                      | \$14                     | \$18                     | \$0.030                     |
| Menlo Park          | \$39                                    | \$23                      | \$16                     |                          | \$0.335                     |
| Millbrae            | \$42                                    | \$3                       | \$30                     | \$9                      | \$0.240                     |
| Pacifica            | \$11                                    | \$9                       | \$2                      |                          | \$0.178                     |
| San Bruno           | \$26                                    | \$19                      |                          | \$7                      | \$0.575                     |
| San Carlos          | \$56                                    | \$43                      | \$13                     |                          | \$0.435                     |
| San Mateo           | \$57                                    | \$33                      | \$16                     | \$8                      | \$0.000                     |
| South San Francisco | \$54                                    | \$23                      | \$27                     | \$4                      | \$0.425                     |
| <b>Total</b>        | <b>\$504</b>                            | <b>\$256</b>              | <b>\$163</b>             | <b>\$85</b>              | <b>\$3</b>                  |

Note: All costs in \$ millions, for jurisdictions with storm drain master plans available to C/CAG

*Data are preliminary, not to be cited*











**Women**  
(18-45 Years)

**Children**  
(1-17 Years)

**2** TOTAL  
SERVINGS  
A WEEK

OR

**1** TOTAL  
SERVING  
A WEEK

**0** DO NOT  
EAT



California Office of  
Environmental Health  
Hazard Assessment

web [www.oehha.ca.gov/fish](http://www.oehha.ca.gov/fish)  
email [fish@oehha.ca.gov](mailto:fish@oehha.ca.gov)  
phone (916) 324-7572

# A GUIDE TO EATING FISH *from* SAN FRANCISCO BAY

(ALAMEDA, CONTRA COSTA, MARIN, NAPA, SAN FRANCISCO, SAN MATEO, SANTA CLARA, SOLANO, SONOMA COUNTIES)

**WOMEN 18 - 45 YEARS AND  
CHILDREN 1 - 17 YEARS**

## Eat the Good Fish

Eating fish that are low in chemicals may provide health benefits to children and adults.



## Avoid the Bad Fish

Eating fish with higher levels of chemicals like mercury or PCBs may cause health problems in children and adults.



## Choose the Right Fish

Chemicals may be more harmful to unborn babies and children.



Brown rockfish



Chinook (King) Salmon

♥ high in omega-3s



Jacksmelt



Red rock crab



California halibut



White croaker



Sharks



White sturgeon



Surfperches



Striped Bass

## Serving Size

A serving of fish is about the size and thickness of your hand. Give children smaller servings.

For Adults



For Children



Some chemicals are higher in the skin, fat, and guts.

Eat only the  
skinless fillet



Eat only the meat

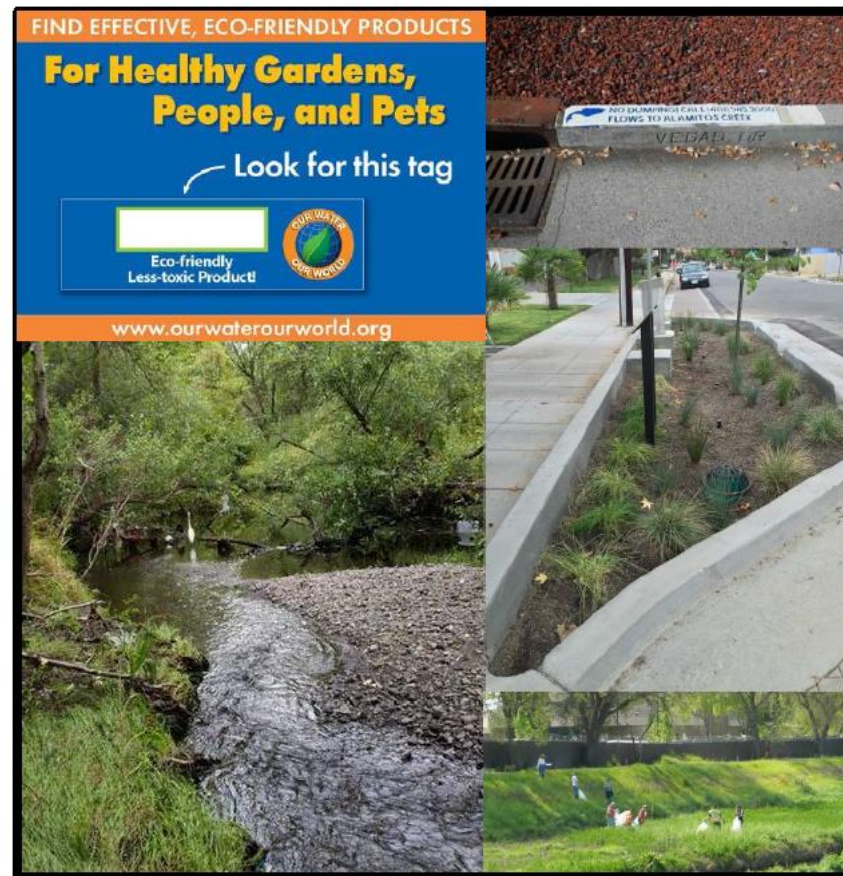




# Municipal Regional Stormwater Permit

## California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit

Order No. R2-2015-0049  
NPDES Permit No. CAS612008  
November 19, 2015



Municipal Regional Stormwater Permit  
Order No. R2-2015-0049

NPDES No. CAS612008  
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# *Multi-Scale Stormwater Management*

**Parcel**



**Street**



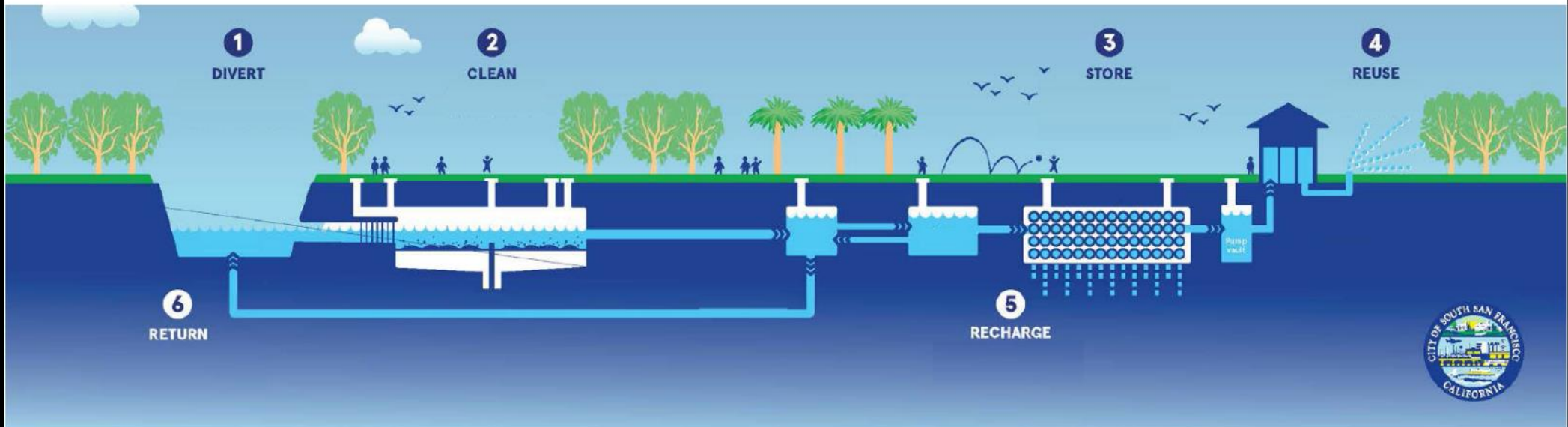
**Regional**





# Orange Memorial Park – Stormwater Capture Project

## Project Configuration





# Water Quality Costs

| Agency         | Estimated Future Annual Costs |
|----------------|-------------------------------|
| C/CAG          | \$2,752,320                   |
| Atherton       | \$298,267                     |
| Belmont        | \$1,739,544                   |
| Brisbane       | \$1,415,466                   |
| Burlingame     | \$2,231,982                   |
| Colma          | \$537,880                     |
| Daly City      | \$2,265,544                   |
| East Palo Alto | \$1,597,787                   |
| Foster City    | \$1,449,464                   |
| Half Moon Bay  | \$282,257                     |
| Hillsborough   | \$266,425                     |
| Menlo Park     | \$3,021,189                   |
| Millbrae       | \$1,568,084                   |
| Pacifica       | \$879,653                     |
| Portola Valley | \$182,137                     |
| Redwood City   | \$3,902,863                   |
| San Bruno      | \$1,994,691                   |
| San Carlos     | \$3,817,215                   |
| San Mateo      | \$4,137,166                   |
| SSF            | \$6,514,467                   |
| Woodside       | \$320,576                     |
| SM County      | \$31,501,565                  |
| <b>TOTALS</b>  | <b>\$46,041,837</b>           |

*Note: data from C/CAG's 2014 funding needs analysis, likely not representative of current regulatory requirements*





# Water Quality Costs

| Agency         | Estimated Future Annual Costs | Estimated Annual Dedicated Revenue |
|----------------|-------------------------------|------------------------------------|
| C/CAG          | \$2,752,320                   | \$ 2,220,000                       |
| Atherton       | \$298,267                     | \$ 80,000                          |
| Belmont        | \$1,739,544                   | \$ 427,726                         |
| Brisbane       | \$1,415,466                   | \$ 148,442                         |
| Burlingame     | \$2,231,982                   | \$ 329,841                         |
| Colma          | \$537,880                     | \$ 37,500                          |
| Daly City      | \$2,265,544                   | \$ 837,507                         |
| East Palo Alto | \$1,597,787                   | \$ 218,967                         |
| Foster City    | \$1,449,464                   | \$ 75,000                          |
| Half Moon Bay  | \$282,257                     | \$ 37,500                          |
| Hillsborough   | \$266,425                     | \$ 117,436                         |
| Menlo Park     | \$3,021,189                   | \$ 401,649                         |
| Millbrae       | \$1,568,084                   | \$ 330,932                         |
| Pacifica       | \$879,653                     | \$ 322,515                         |
| Portola Valley | \$182,137                     | \$ 75,000                          |
| Redwood City   | \$3,902,863                   | \$ 338,278                         |
| San Bruno      | \$1,994,691                   | \$ 593,279                         |
| San Carlos     | \$3,817,215                   | \$ 550,676                         |
| San Mateo      | \$4,137,166                   | \$ 612,922                         |
| SSF            | \$6,514,467                   | \$ 629,858                         |
| Woodside       | \$320,576                     | \$ 75,000                          |
| SM County      | \$31,501,565                  | \$ 612,166                         |
| <b>TOTALS</b>  | <b>\$46,041,837</b>           | <b>\$ 9,072,194</b>                |

*Note: data from C/CAG's 2014 funding needs analysis, likely not representative of current regulatory requirements*



## *Poll #2*

- How much do you think single family homes pay on average each year for stormwater management?
  - A. \$0-10
  - B. \$10-100
  - C. \$100-500
  - D. \$500-1,000
  - E. \$1,000-2,000



## *Poll #2*

- How much do you think single family homes pay on average each year for stormwater management?
  - A. \$0-10
  - B. \$10-100
  - C. \$100-500
  - D. \$500-1,000
  - E. \$1,000-2,000

# *Existing Stormwater Fees*

## *(Annual for Single Family)*

- C/CAG: \$7.40
- Atherton: \$0
- Belmont:
- Brisbane:
- Burlingame:
- Colma: \$0
- Daly City:
- East Palo Alto:
- Foster City: \$0
- Half Moon Bay: \$0
- Hillsborough:
- Menlo Park:
- Millbrae:
- Pacifica:
- Portola Valley: \$0
- Redwood City: \$0
- San Bruno:
  - Current: \$
  - Proposed: \$
- San Carlos: \$
- San Mateo: \$0
- So. San Francisco: \$
- Woodside: \$0
- San Mateo County: \$0



# *Existing Stormwater Fees*

## *(Annual for Single Family)*

- C/CAG: \$7.40
- Atherton: \$0
- Belmont: \$30
- Brisbane: \$9.48
- Burlingame: \$150
- Colma: \$0
- Daly City: \$9.80
- East Palo Alto: \$20
- Foster City: \$0
- Half Moon Bay: \$0
- Hillsborough: \$7.34
- Menlo Park: \$16-26
- Millbrae: \$25.66
- Pacifica: \$14
- Portola Valley: \$0
- Redwood City: \$0
- San Bruno:
  - Current: \$46
  - Proposed: \$154
- San Carlos: \$20
- San Mateo: \$0
- So. San Francisco: \$8.72
- Woodside: \$0
- San Mateo County: \$0

# *Some Context on Similar Utilities/Fees*

- Matt's annual utilities/bills
  - Sewer: \$1,391
  - Water: \$1,076
  - Gas/Electric: \$1,680
  - Garbage: \$300
  - TV/Internet: \$1,440
  - Stormwater: \$3.44



# *Example Funding Approaches*

- Property-Related Fee
  - Property-owner balloting: Simple majority
  - General electorate: 2/3 majority
  - SB 231: no balloting, likely legal challenge
- Parcel Tax
  - General Electorate: 2/3 majority
- Enhanced Infrastructure Financing District
  - Commit future portion of property tax increment
  - No voter approval required, unless issuing bonds

# *Scales of Implementation*

- Countywide (e.g., current C/CAG fee)
  - C/CAG
  - Flood & Sea Level Rise Resiliency District
  - LA County Measure W (parcel tax, \$285M/yr)
- Sub-Countywide
  - Jurisdictions opt in or out of countywide, or join together for group effort (ex. Flood control zones)
- Jurisdictional
  - Each agency pursues individually (San Bruno, Burlingame)



# *Discussion Questions*

- What role should C/CAG play in addressing stormwater funding needs (e.g., lead, support, none)?
- What scale of effort makes sense (e.g., countywide, sub-countywide, jurisdictional)?